

Fig. 1

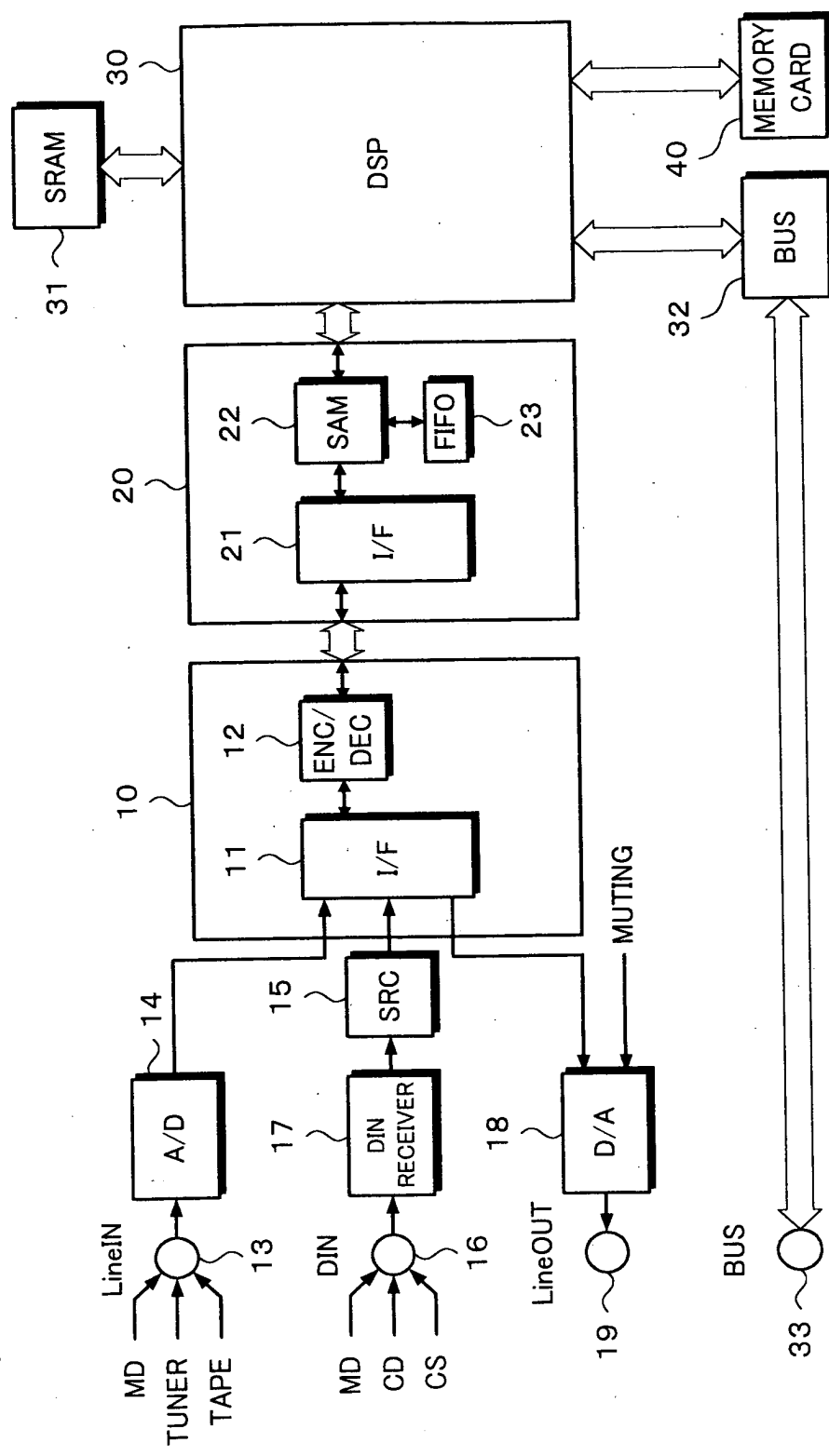


Fig. 2

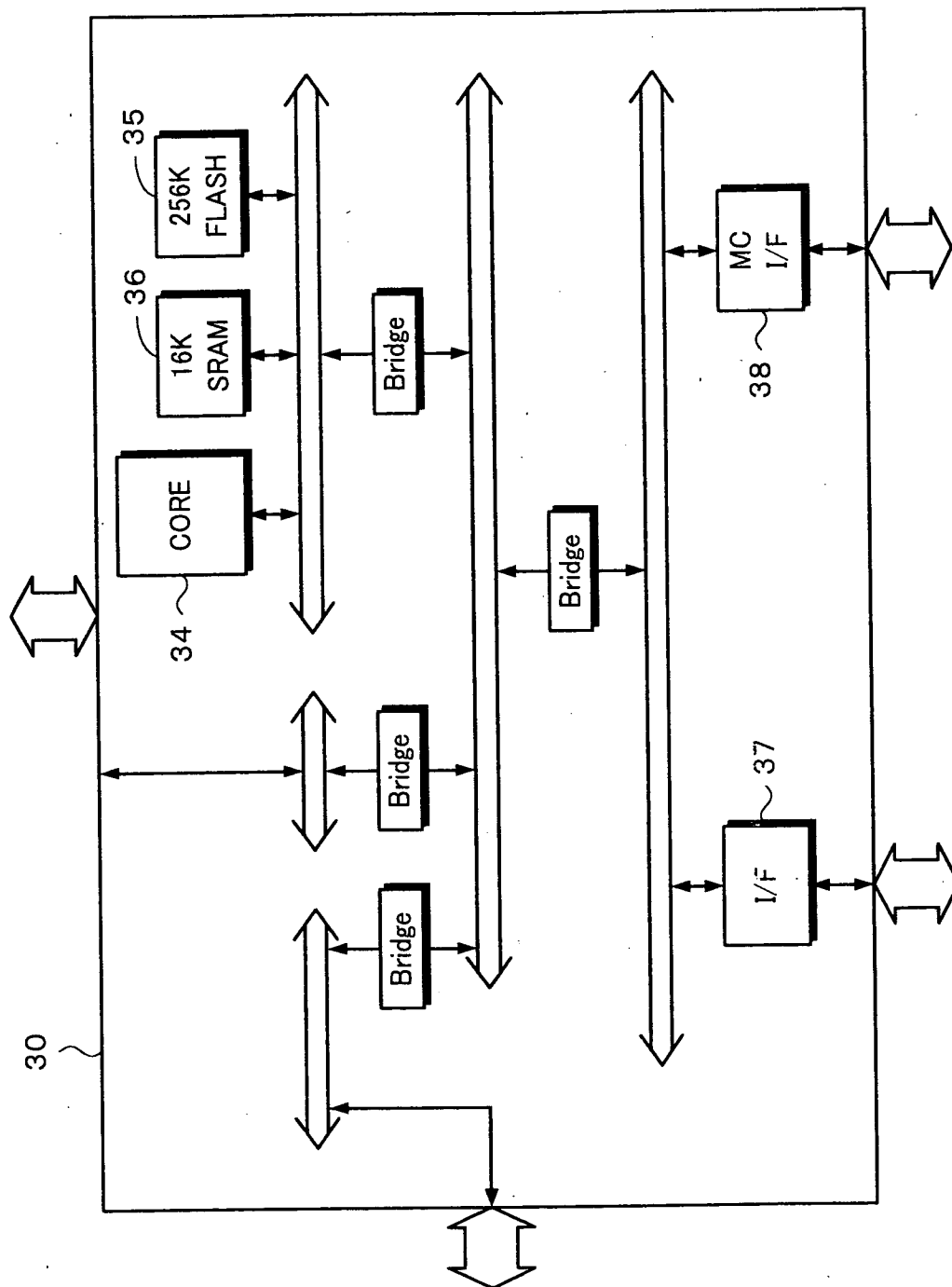
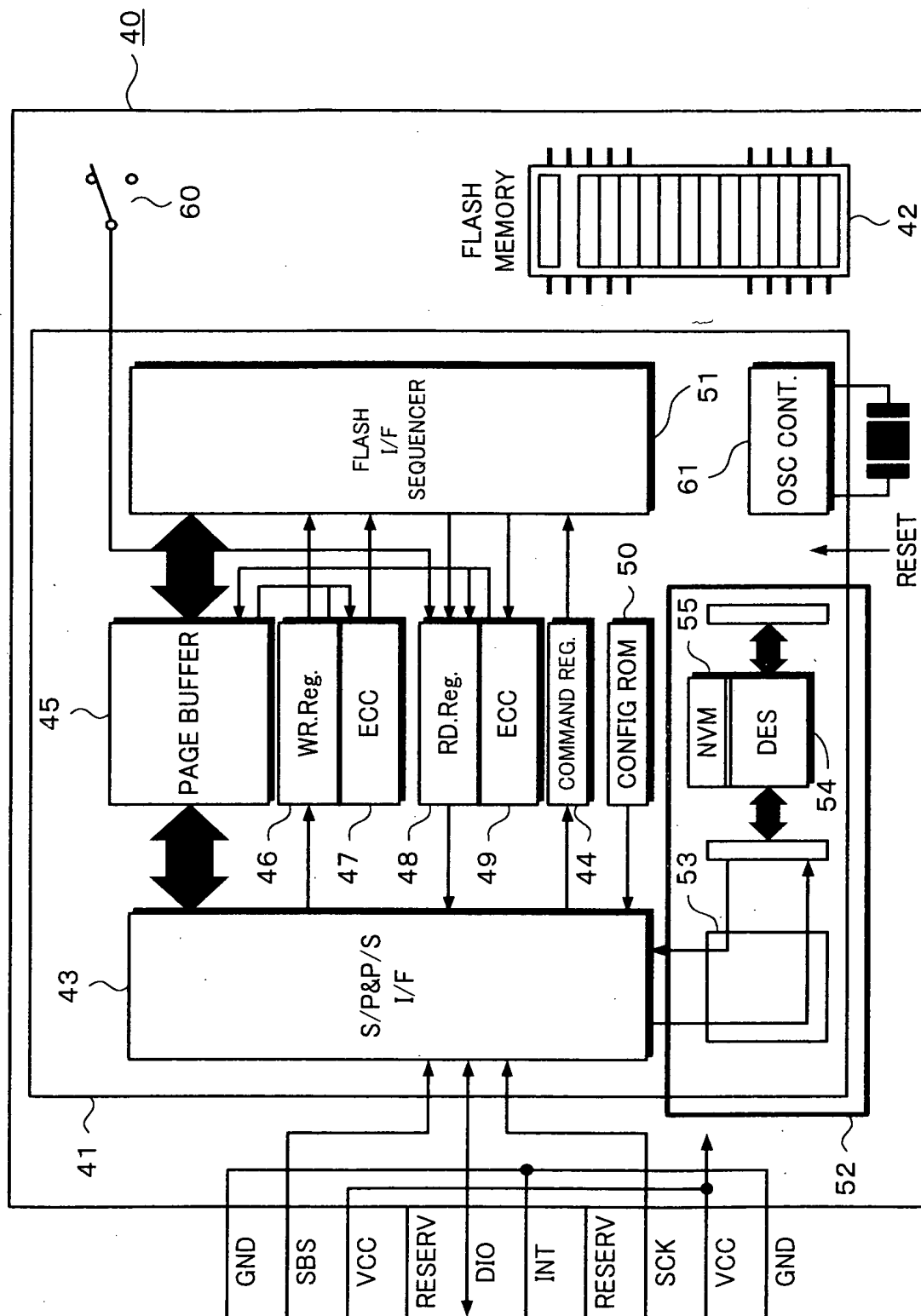


Fig. 3



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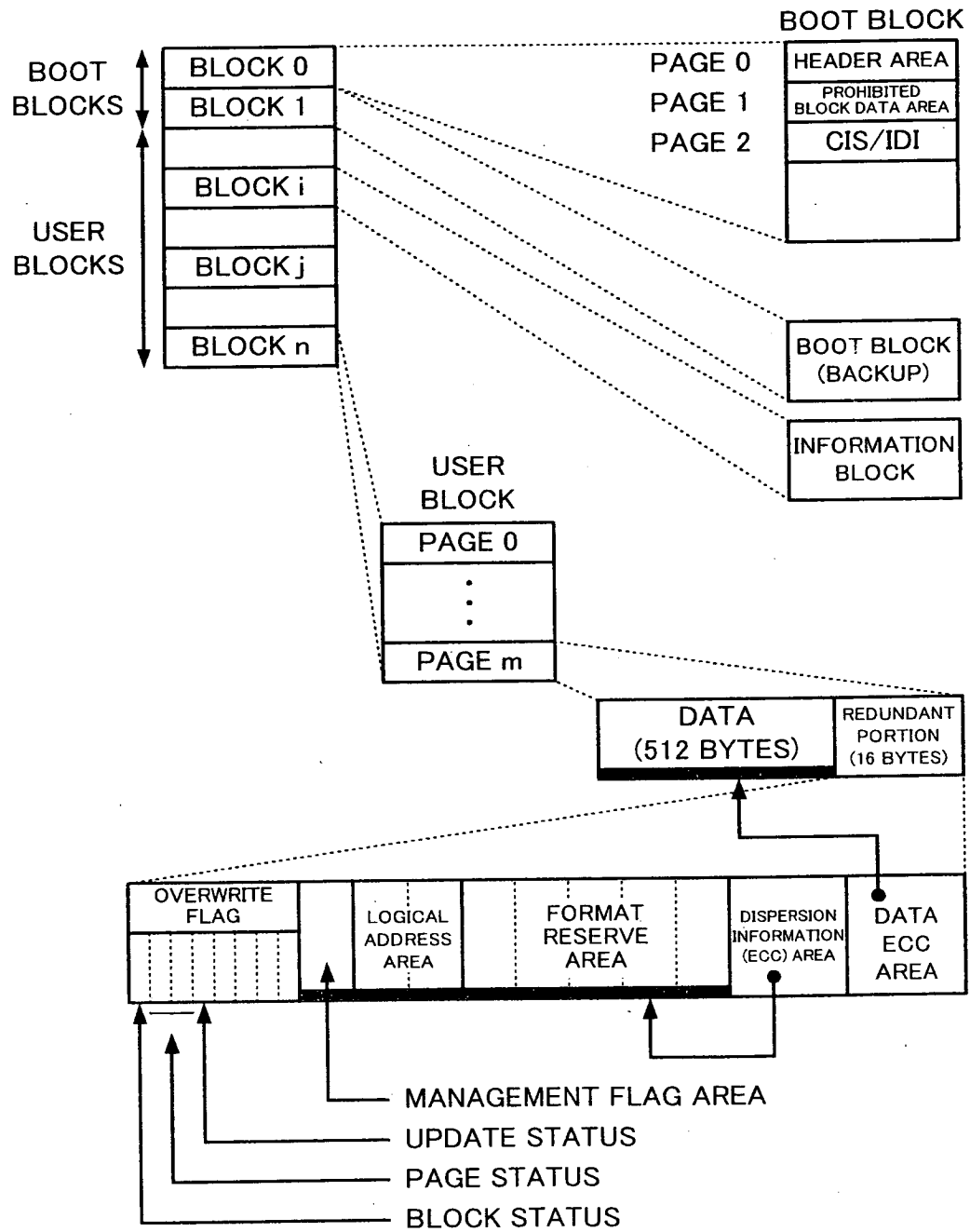
***Fig. 4***

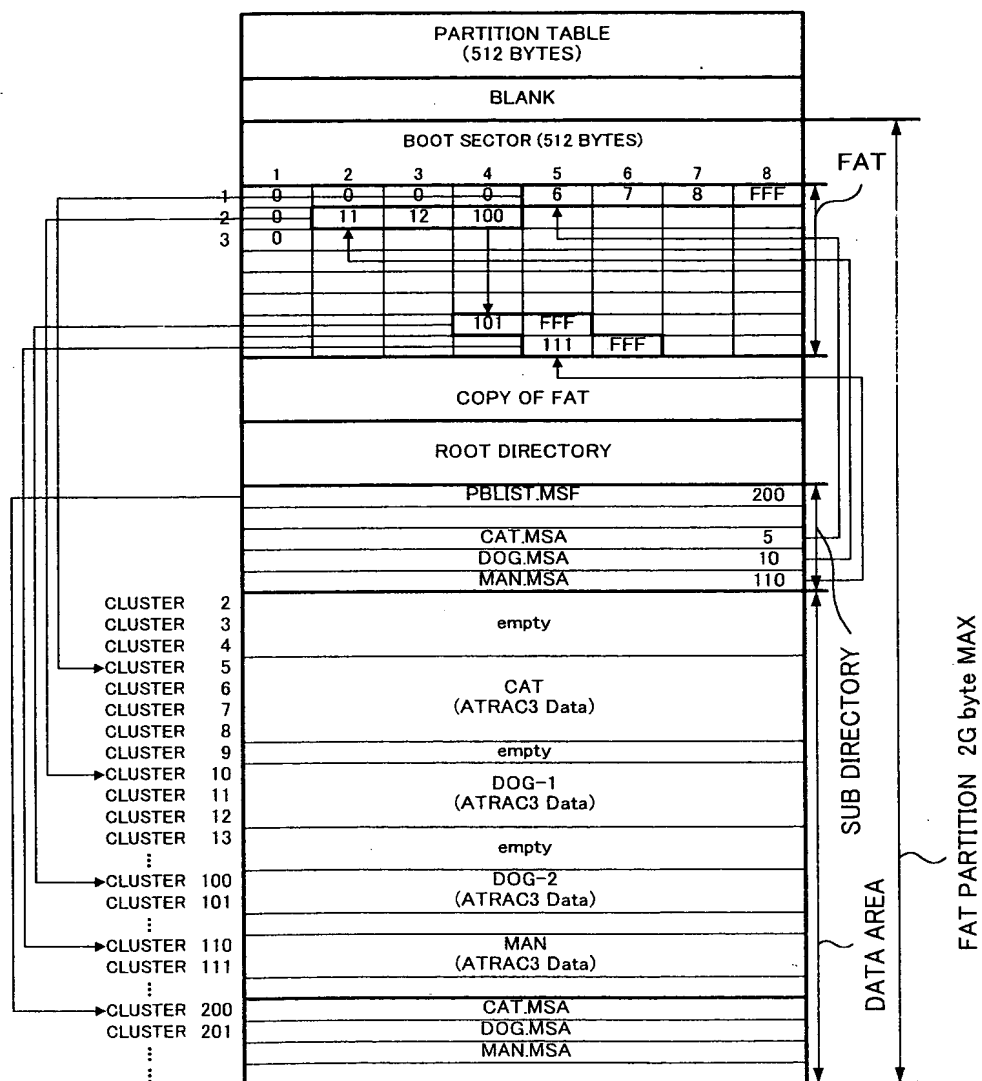
APPLICATION PROCESS
FILE MANAGEMENT PROCESS
LOGICAL ADDRESS MANAGEMENT
PHYSICAL ADDRESS MANAGEMENT
FLASH MEMORY ACCESS

FILE SYSTEM PROCESS  
HIERARCHY

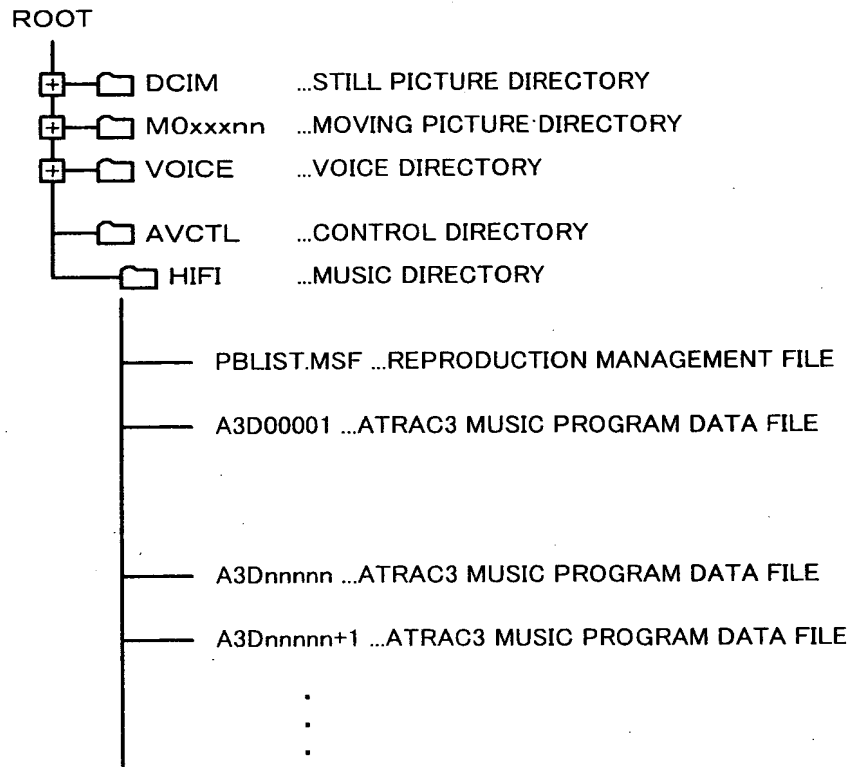
00260"303600

# Fig. 5

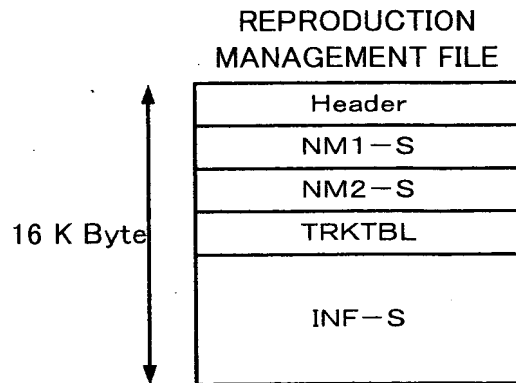




# Fig. 7

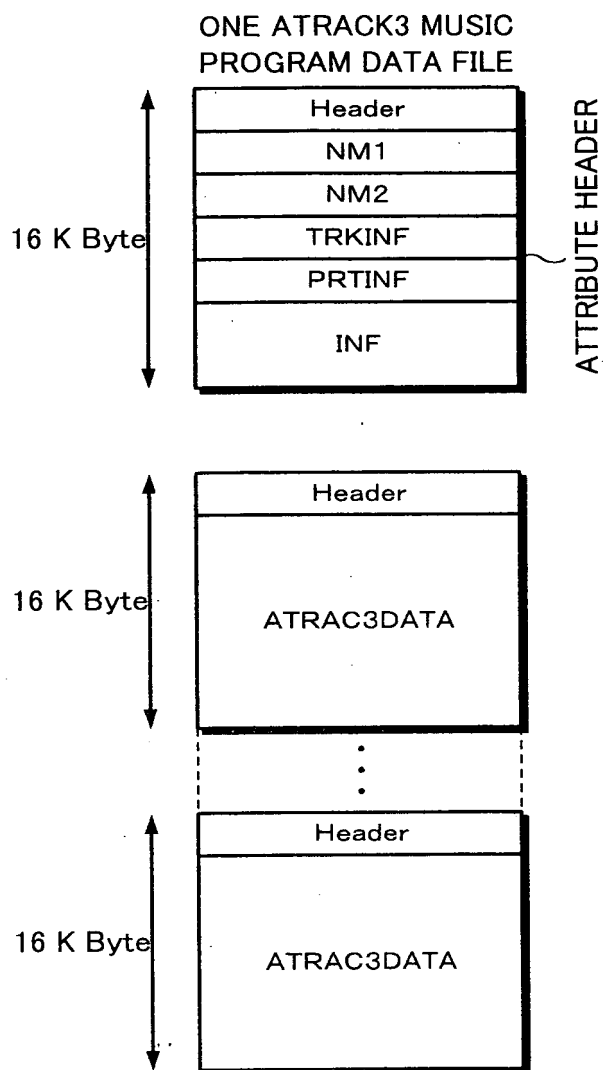


# Fig. 8

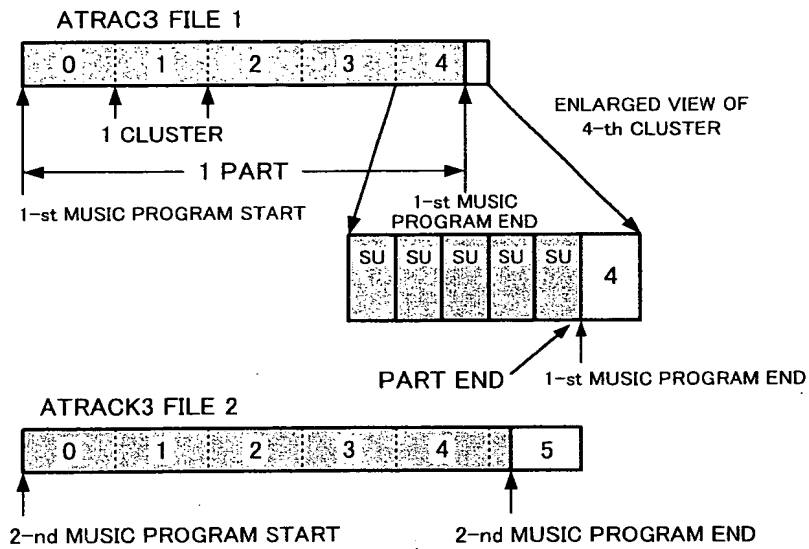


APPROVED	O.G. FIG.	
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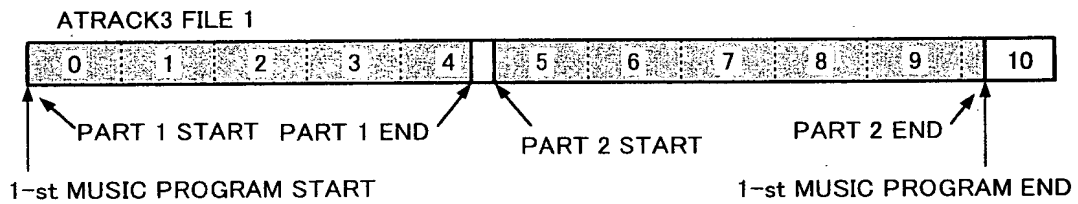
**Fig. 9**



**Fig. 10A**



**Fig. 10B**



**Fig. 10C**

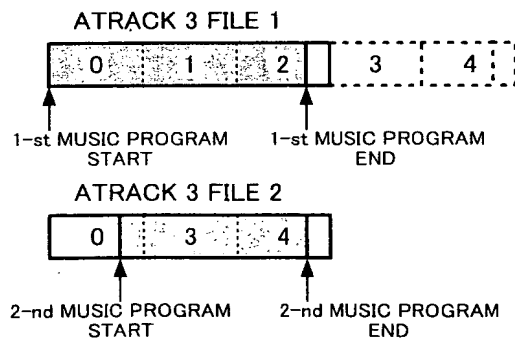


Fig. 11

REPRODUCTION MANAGEMENT FILE (PBLIST)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0X0000	BLKID-TLO			Reserved	MCode	REVISION			Reserved								
0X0010	SN1C+L	SN2C+L		SINFSIZE	T-TRK	VerNo			Reserved								
0X0020	NM1-S(256)																
0X0120	NM2-S(512)																
0X0320	Reserved				CONTENTSKY												
0X0330	Reserved				MAC												
0X0350	Reserved																
	TRK-001	TRK-002	TRK-003	TRK-004	TRK-005	TRK-006	TRK-007	TRK-008	S-YMDhms								
	TRK-009	TRK-010	TRK-011	TRK-012	TRK-013	TRK-014	TRK-015	TRK-016									
0X0660	TRK-393	TRK-394	TRK-395	TRK-396	TRK-397	TRK-398	TRK-399	TRK-400									
0X0647	INF-S(14720)																
0X3FF0	BLKID-TLO				Reserved	MCode	REVISION			Reserved							

TRKTBL

APPROVED	O.G. FIG.	
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**Fig. 12A**

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0X0000	BLKID-TL0		Reserved	MCode		REVISION		Reserved								
0X0010	SN1C+L	SN2C+L	SINFSIZE	T-TRK		VerNo		Reserved								

0X0020	NM1 – S (256)									
0X0120	NM2 – S (512)									
0X0320	Reserved			CONTENTSKEY						
0X0330	Reserved			MAC						
	Reserved									
								S – YMDhms		
0X0350	TRK – 001	TRK – 002	TRK – 003	TRK – 004	TRK – 005	TRK – 006	TRK – 007	TRK – 008		
0X0360	TRK – 009	TRK – 010	TRK – 011	TRK – 012	TRK – 013	TRK – 014	TRK – 015	TRK – 016		

**Fig. 12B**

0X0660	TRK-393	TRK-394	TRK-395	TRK-396	TRK-397	TRK-398	TRK-399	TRK-400
0X0670	INF-S(14720)							
0X3FF0	BLKID-TLO		Reserved	MCode	REVISION		Reserved	

0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
INF	0x00	ID	0x00	SIZE	MCode	C+L	Reserved	DATA VARIABLE LENGTH							

APPROVED	O.G. FIG.	
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**Fig. 13**

ID	MUSIC INFORMATION (CHARACTERS)		ID	URL INFORMATION (WEB INFORMATION)	
0	RESERVED		32	RESERVED	
1	ALBUM	VARIABLE	33	ALBUM	VARIABLE
2	SUBTITLE	VARIABLE	34	SUB TITLE	VARIABLE
3	ARTIST	VARIABLE	35	ARTIST	VARIABLE
4	CONDUCTOR	VARIABLE	36	CONDUCTOR	VARIABLE
5	ORCHESTRA	VARIABLE	37	ORCHESTRA	VARIABLE
6	PRODUCER	VARIABLE	38	PRODUCER	VARIABLE
7	PUBLISHER	VARIABLE	39	PUBLISHER	VARIABLE
8	COMPOSER	VARIABLE	40	COMPOSER	VARIABLE
9	SONG WRITER	VARIABLE	41	SONG WRITER	VARIABLE
10	ARRANGER	VARIABLE	42	ARRANGER	VARIABLE
11	SPONSOR	VARIABLE	43	SPONSOR	VARIABLE
12	CM	VARIABLE	44	CM	VARIABLE
13	GUIDE	VARIABLE	45	GUIDE	VARIABLE
14	ORIGINAL MUSIC PROGRAM TITLE	VARIABLE	46	ORIGINAL MUSIC PROGRAM TITLE	VARIABLE
15	ORIGINAL ALBUM TITLE	VARIABLE	47	ORIGINAL ALBUM TITLE	VARIABLE
16	ORIGINAL MUSIC PROGRAM COMPOSER	VARIABLE	48	ORIGINAL MUSIC PROGRAM COMPOSER	VARIABLE
17	ORIGINAL MUSIC PROGRAM SONG WRITER	VARIABLE	49	ORIGINAL MUSIC PROGRAM SONG WRITER	VARIABLE
18	ORIGINAL MUSIC PROGRAM ARRANGER	VARIABLE	50	ORIGINAL MUSIC PROGRAM ARRANGER	VARIABLE
19	ORIGINAL MUSIC PROGRAM PERFORMER	VARIABLE	51	ORIGINAL MUSIC PROGRAM PERFORMER	VARIABLE
20	MESSAGE	VARIABLE	52		
21	COMMENT	VARIABLE	53		
22	WARNING	VARIABLE	54		
23	GENRE	VARIABLE	55		
24			56		
25			57		
26			58		
27			59		
28			60		
29			61		
30			62		
31			63		

**Fig. 14**

ID	PATH/OTHERS		ID	CONTROL/NUMERIC DATA INFORMATION	
64	RESERVED		96	RESERVED	
65	PATH TO VIDEO DATA	VARIABLE	97	ISRC	8
66	PATH TO SONG DATA	VARIABLE	98	TOC_ID	8
67	PATH TO MIDI DATA	VARIABLE	99	UPC/JAN	7
68	PATH TO GUIDE DATA	VARIABLE	100	RECORDED DATE (YMDhms)	4
69	PATH TO COMMENT DATA	VARIABLE	101	RELEASED DATE	4
70	PATH TO CM DATA	VARIABLE	102	ORIGINAL MUSIC PROGRAM RELEASED DATE (YMDhms)	4
71	PATH TO FAX DATA	VARIABLE	103	RECORDED DATE (YMDhms)	4
72	PATH TO COMMUNICATION DATA 1	VARIABLE	104	SUB TRACK	4
73	PATH TO COMMUNICATION DATA 2	VARIABLE	105	AVERAGE VOLUME LEVEL	1
74	PATH TO CONTROL DATA	VARIABLE	106	RESUME	4
75			107	REPRODUCTION LOG (YMDhms)	4
76			108	NUMBER OF REPRODUCTION TIMES (FOR LEARNING)	1
77			109	PASSWORD 1	16
78			110	APPLLevel	16
79			111	GENRE CODE	1
80			112	MIDI DATA	
81			113	THUMB NAIL PHOTOGRAPH DATA	
82			114	TEXT MULTIPLEXED BROADCAST DATA	
83			115	NUMBER OF TOTAL MUSIC PROGRAMS	
84			116	SET NUMBER	
85			117	NUMBER OF TOTAL SETS	
86			118	REC POSITION INFORMATION - GPS	VARIABLE
87			119	PB POSITION INFORMATION - GPS	VARIABLE
88			120	REC POSITION INFORMATION - PHS	VARIABLE
89			121	PB POSITION INFORMATION - PHS	VARIABLE
90			122	CONNECTION DESTINATION TELEPHONE NUMBER 1	VARIABLE
91			123	CONNECTION DESTINATION TELEPHONE NUMBER 2	VARIABLE
92			124	INPUT VALUE	VARIABLE
93			125	OUTPUT VALUE	VARIABLE
94			126	PB CONTROL DATA	VARIABLE
95			127	REC CONTROL DATA	VARIABLE



APPROVED	O.G. FIG.	
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**Fig. 16A**

0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
IN	0x00	ID	0x00	SIZE	Mcode	C+L	Reseved	VARIABLE LENGTH DATA							

**Fig. 16B**

ID	ARTIST		SIZE	ASCII ENGLISH						DATA			
0x69	0x00	3	0x00	0x1C(28)	Mcode	0x01	0x09	0x00	0x00	S	I	M	O
N	&	G	R	A	F	U	N	K	E	L	0x00		

**Fig. 16C**

						ID		ISRC			
SIZE						BINARY NOT SET		0x69	0x00	97	0x00
0x14(20)	Mcode	0x00	0x00	0x00	0x00	ISRC Code 8byte					
DATA											

**Fig. 16D**

RECORDED DATE			SIZE		BINARY NOT SET					DATA	
0x69	0x00	103	0x00	0x10(16)	Mcode	0x00	0x00	0x00	0x00	YMD hms	
										745	565
										<div><div>Y</div><div>M</div><div>D</div><div>h</div><div>m</div><div>s</div></div> <div>31,30,293,2,1,0bit</div>	

**Fig. 16E**

REPRODUCTION LOG			SIZE	BINARY NOT SET					DATA	
0x69	0x00	107	0x00	0x10(16)	Mcode	0x00	0x00	0x00	0x00	YMD hms
										745 565
										<div><div>Y</div><div>M</div><div>D</div><div>h</div><div>m</div><div>s</div></div> <div>31,30,293,2,1,0bit</div>

# Fig. 17

## A3Dnnnnn.MSA(ATRAC3 DATA FILE)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F																
0x0000	BLKID-HD0			Reserved		MCode		Reseved				BLOCK SERIAL																				
0x0010	N1C+L		N2C+L		INFSIZE		T-PRT		T-SU				INX		XT																	
0x0020	NM1(256)																															
0x0120	NM2(512)																															
0x0310																																
0x0320																	Reserved(8)							CONTENTSKEY								
																	Reserved(8)							MAC								
																	Reserved(12)											A	LT	FNo		
	MG(D)SERIAL-nnn																															
0x0360	CONNUM			YMDhms-S				YMDhms-E				MT	CT	CC	CN																	
0x0370	PRTSIZE			PRTKEY							Reserved(8)																					
0x0380				CONNUM0				PRTSIZE(0x0388)				PRTKEY																				
0x0390				Reserved(8)							CONNUM0																					
	INF(0x0400)																															
0x3FFF	BLKID-HD0			Reserved		MCode		Reseved				BLOCK SERIAL																				
0x4000	BLKID-A3D			Reserved		MCode		CONNUM0				BLOCK SERIAL																				
0x4010	BLOCK SEED							INITILIZATION VECTOR																								
0x4020	SU-000(Nbyte=384byte)																															
0x41A0																																
0x4320																																
0x04A0																																
0x7DA0	SU-041(Nbyte)																															
0x7F20																																
	Reserved(Nbyte=208byte)																															
	BLOCK SEED																															
0x7FF0	BLKID-A3D			Reserved		MCode		CONNUM0				BLOCK SERIAL																				

00000000000000000000000000000000

Fig. 18

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0x0000	BLKID-HD0			Reserved		MCode		Reseved			BLOCK SERIAL					
0x0010	N1C+L		N2C+L		INFSIZE		T-PRT		T-SU			INX		XT		
0x0020	NM1(256)															
0x0120	NM2(512)															
0x0310																

Fig. 19

0x0320	Reserved(8)				CONTENTSKEY								
	Reserved(8)				MAC								
	Reserved(12)								A	LT	FNo		
	MG(D)SERIAL-nnn												
0x0360	CONNUM		YMDhms-S		YMDhms-E		MT	CT	CC	CN			

Fig. 20

bit7:MODE OF ATRAC3    0: Dual    1: Joint

bit6,5,4    N OF 3 BITS:MODE VALUE

N	MODE	TIME	TRANSMISSION RATE	SU	BYTES
7	HQ	47min	176kbps	31SU	512
6		58min	146kbps	38SU	424
5	EX	64min	132kbps	42SU	384
4	SP	81min	105kbps	53SU	304
3		90min	94kbps	59SU	272
2	LP	128min	66kbps	84SU	192
1	mono	181min	47kbps	119SU	136
0	mono	258min	33kbps	169SU	96

bit3:Reserved

bit2:DATA TYPE    0:AUDIO    1:OTHER

bit1:REPRODUCTION SKIP    0:NORMAL REP    1:SKIP

bit0:EMPHASIS    0:OFF    1:ON(50/15 μ S)

# Fig. 21

bit7 :COPY PERMISSION      0:COPY PROHIBITION      1:COPY PERMISSION  
 bit6 :GENERATION      0:ORIGINAL      1:FIRST OR LATER COPY GENERATION  
 HCMS bit5-4 :COPY CONTROL FOR HIGH SPEED DIGITAL COPY  
                  00:COPY PROHIBITION    01:COPY FIRST GENERATION 10:COPY PERMISSION  
                  COPY OPERATION OF CHILD OF FIRST COPY GENERATION IS PROHIBITED.  
 bit3-2 MagicGate AUTHENTICATION LEVEL  
          00:Level10(Non-MG)      01:Level1  
          10:Level2                    11:Reserved  
          DIVIDE AND COMBINE ARE PROHIBITED IN OTHER THAN LEVEL 10.  
 bit1,0      Reserved

# Fig. 22

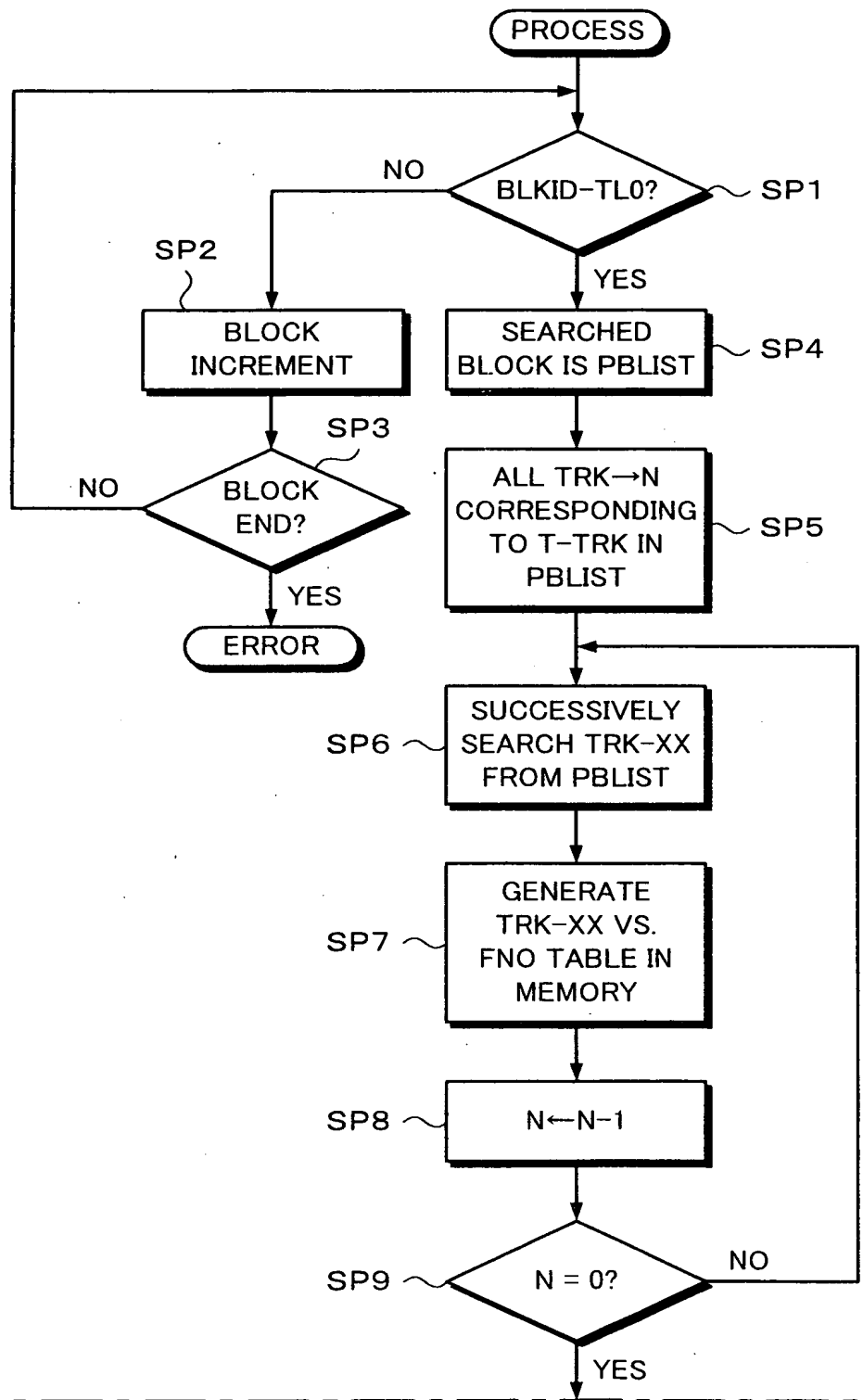
0x0370	PRTSIZE	PRTKEY	Reserved(8)
0x0380	CONNUM0	PRTSIZE(0x0388)	PRTKEY
0x0390	Reserved(8)	CONNUM0	

# Fig. 23

0x4000	BLKID-A3D	Reserved	MCode	CONNUM0	BLOCK SERIAL
0x4010	BLOCK SEED			INITILIZATION VECTOR	
0x4020	SU-000(Nbyte=384byte)				

# Fig. 24A

Fig. 24
Fig. 24A
Fig. 24B
Fig. 24C



*Fig. 24B*

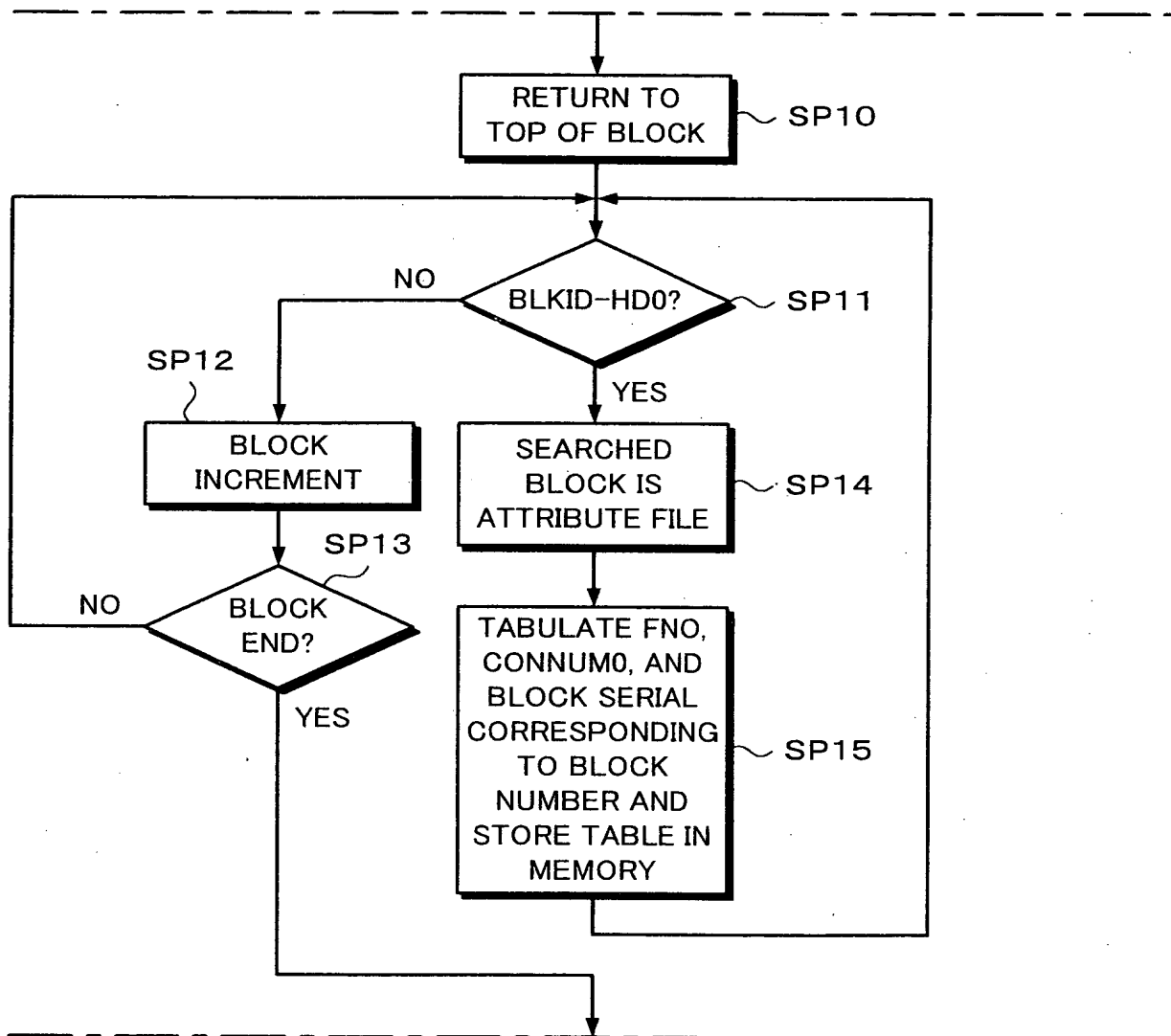
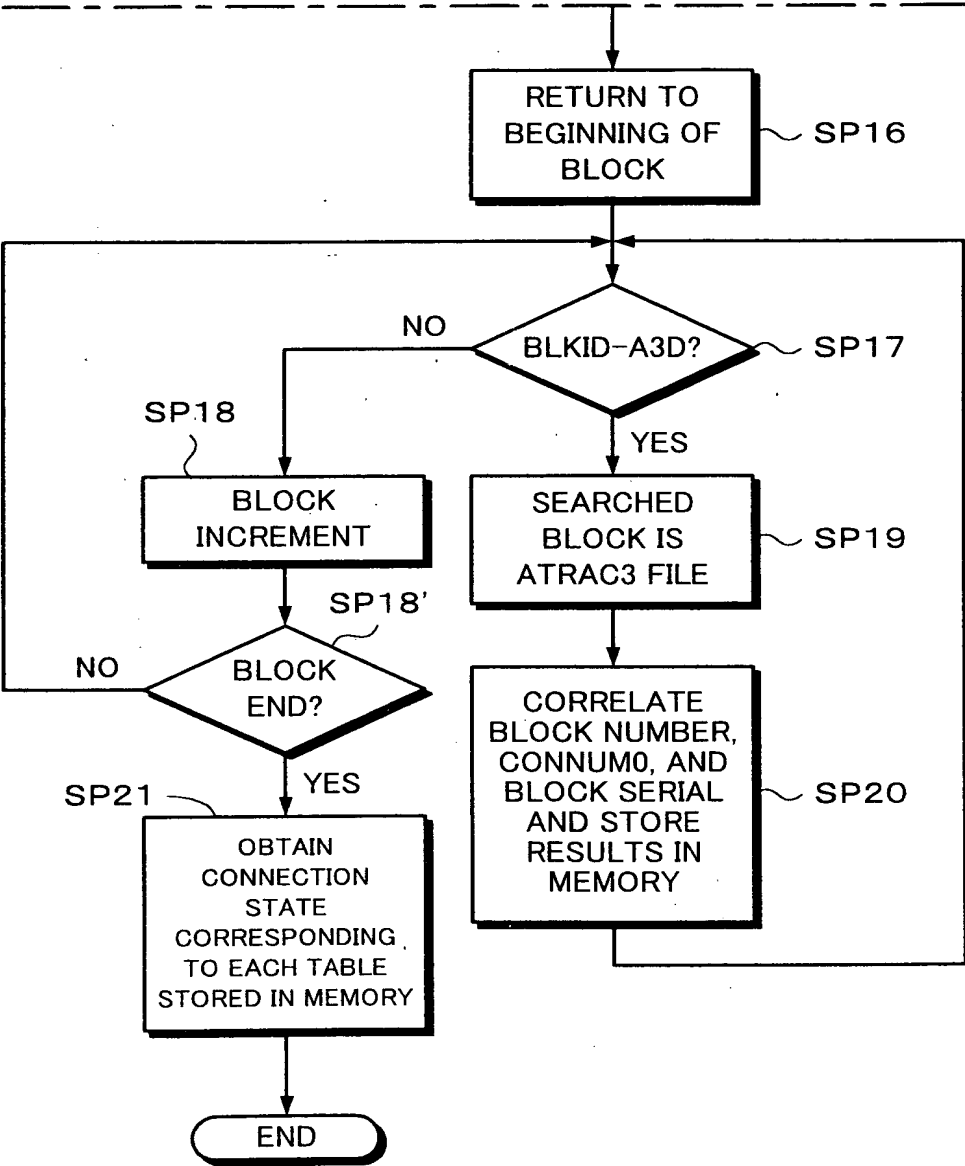
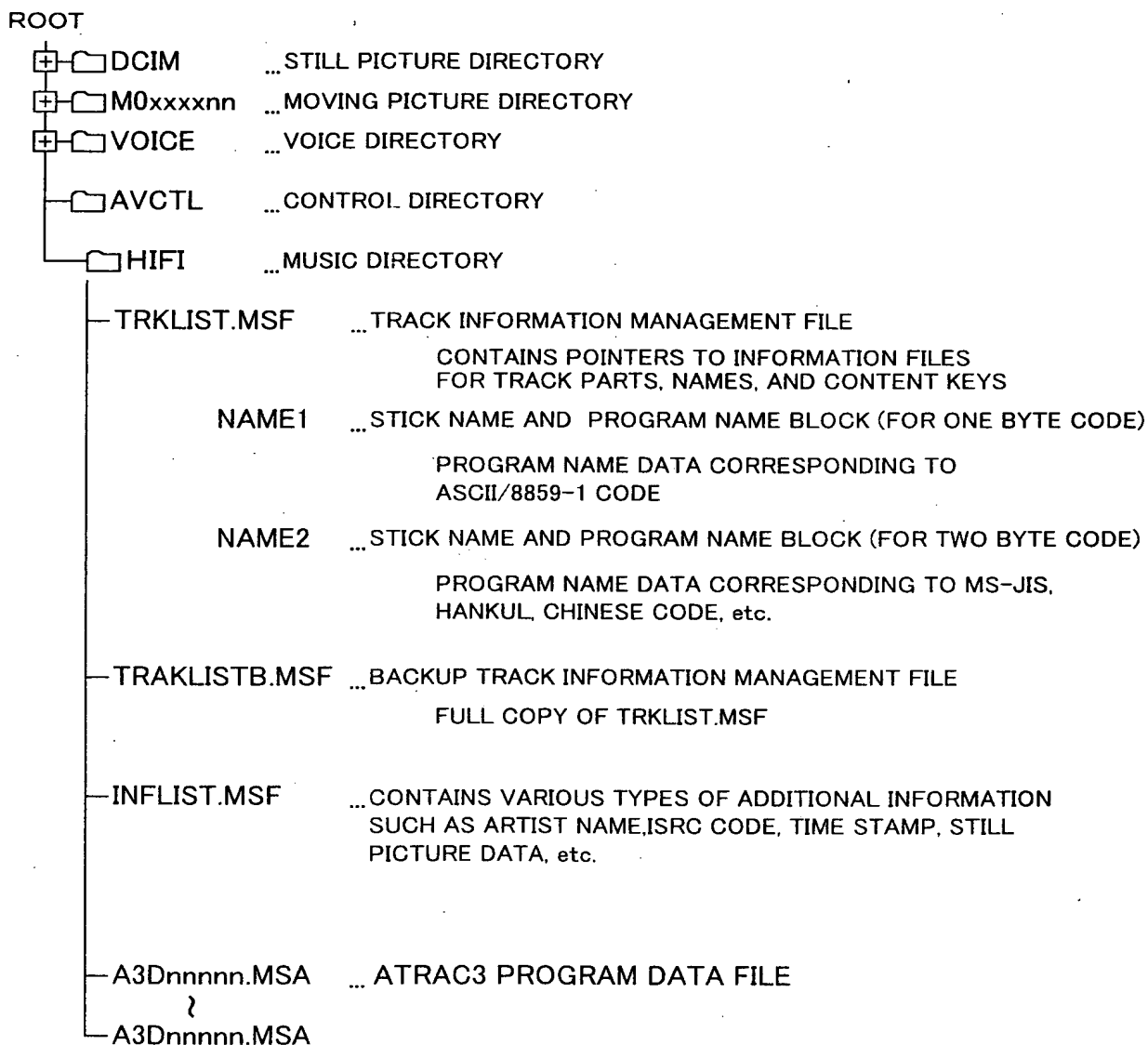


Fig. 24C



[illegible]



	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0x0000	BLK ID-TL0			T-TRK		MCode		REVISION				YMD h ms				
0x0010	N1	N2	MSID		S-TRK		PASS		APP		INF-S		S_YMD h ms			
0x0020	TRKINF-001															
	PRTINF-001															
	TRKINF-002															
	PRTINF-002															
	§															
0x3FF0	BLK ID-TL0					MCode		REVISION								
0x4000	BLK ID-TL1					MCode		REVISION								
	§															
	DETAIL OF TRKINF-nnn/PRTINF-nnn															
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
	T0	LT	INF		FNM-nnn				CONTENTS KEY-nnn							
	-nnn MG(D) SERIAL-nnn															
	APP_CTL			CONNUM-nnn				P-nnn		XT		INX-nnn				
	YMDhms-S				YMDhms-E				MT	CT	CC	CN	Reserved			
	PR		A-0000		PRTSIZE-0000				PRTKEY-0000							
	§															
	PR		A-nnnn		PRTSIZE-nnnn				PRTKEY-nnnn							
0x7FF0	BLK ID-TL1					MCode		REVISION								

# Fig. 28

STICK NAME AND PROGRAM NAME BLOCK-FOR ONE BYTE CODE

	0	1	2	3	4	5	6	7
0x8000	BLK ID-NM1					MCode		
0x8008	PNM1-S				PNM1-001			
0x8010	PNM1-002				PNM1-003			
	§							
0x8668	PNM1-408				NM1-S			
	NM1-001 NM1-002 NM1-003 § NM1-408							
0xBFF0								
0xBFF8	BLK ID-NM1					MCode		

# Fig. 29

STICK NAME AND PROGRAM NAME BLOCK-FOR TWO-BYTE CODE

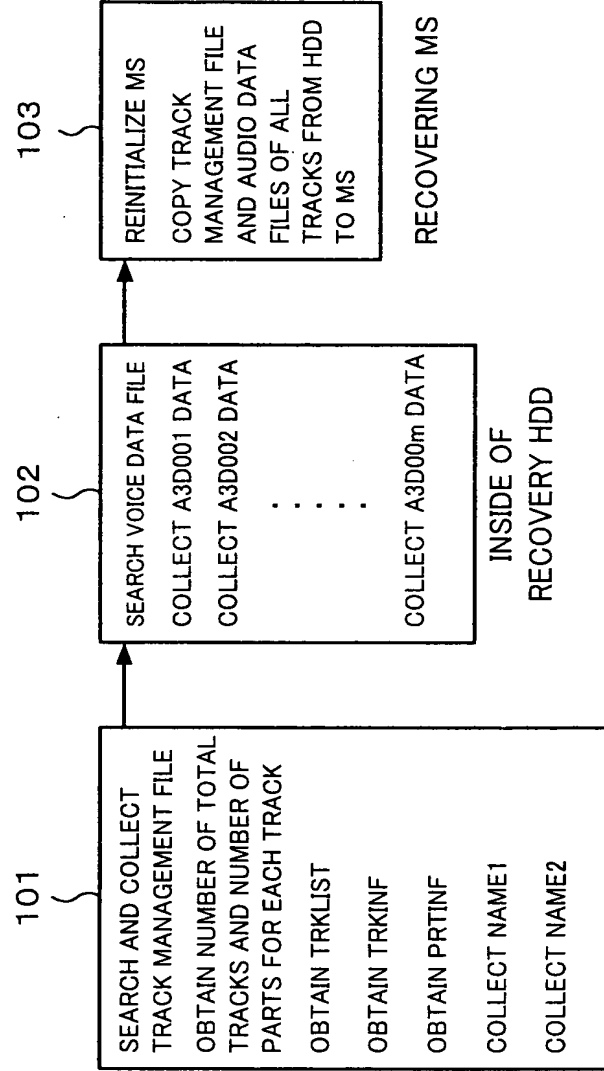
	0	1	2	3	4	5	6	7
0xC000	BLK ID-NM2					MCode		
0xC008	PNM2-S				PNM2-001			
0xC010	PNM2-002				PNM2-003			
					S			
0xC668	PNM2-408				NM2-S			
	NM2-001							
	NM2-002							
	NM2-003							
	S							
	NM2-408							
0xFFFF0								
0xFFFF8	BLK ID-NM2					MCode		





APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

Fig. 33



**Fig. 34**

## RELATION BETWEEN DATA BYTES AND TRANSMISSION RATES

TRANSMISSION RATE	BYTES	BYTES	TRANSMISSION RATE	SU	SECONDS	MINUTES	Stereo(MINUTES)	Mono(MINUTES)	NUMBER OF REMAINING BYTES	NUMBER OF REMAINING SLOTS
88.2	256	512	176.4	31	2853.361	47.556	47	95	512	64
85.4	248	496	170.9	33	3037.449	50.624	50	101	16	2
82.7	240	480	165.4	34	3129.493	52.158	52	104	64	8
79.9	232	464	159.9	35	3221.537	53.692	53	107	144	18
77.2	224	448	154.4	36	3313.58	55.226	55	110	256	32
74.4	216	432	148.8	37	3405.624	56.760	56	113	400	50
MD Data	NONE	424	146.1	38	3497.668	58.294	58	NONE	272	34
71.7	208	416	143.3	39	3589.712	59.829	59	119	160	20
68.9	200	400	137.8	40	3681.756	61.363	61	122	384	48
66.2	192	384	132.3	42	3865.844	64.431	64	128	256	32
63.4	184	368	126.8	44	4049.932	67.499	67	134	192	24
60.6	176	352	121.3	46	4234.019	70.567	70	141	192	24
57.9	168	336	115.8	48	4418.107	73.635	73	147	256	32
55.1	160	320	110.3	51	4694.239	78.237	78	156	64	8
52.4	152	304	104.7	53	4878.327	81.305	81	162	272	34
49.6	144	288	99.2	56	5154.458	85.908	85	171	256	32
46.9	136	272	93.7	60	5522.634	92.044	92	184	64	8
44.1	128	256	88.2	63	5798.766	96.646	96	193	256	32
41.3	120	240	82.7	68	6258.985	104.316	104	208	64	8
38.6	112	224	77.2	72	6627.161	110.453	110	220	256	32
35.8	104	208	71.7	78	7179.424	119.657	119	239	160	20
	NONE	200	68.9	81	7455.556	124.259	124	NONE	184	23
33.1	96	192	66.2	85	7823.732	130.396	130	260	64	8
30.3	88	176	60.6	92	8468.039	141.134	141	282	192	24
27.6	80	160	55.1	102	9388.478	156.475	156	312	64	8
	73	146	50.3	112	10308.92	171.815	171	343	32	4